

### REMARKS

An amendment is presented to correct a typographic error in claim 61, which should have depended from claim 59 (as it now does). Claims 156-158 are added that depend from claims 92, 112, and 124.

The Office Action dated November 29, 2005, required restriction of the claims for examination to one of two inventions. The Office Action states that the claims of "*Invention I*" are drawn to "frequency translating of a signal in a receiver circuitry having inphase and quadrature paths," while the claims of "*Invention II*" are drawn to "frequency translating of a signal in a receiver circuitry having a single path."

### ELECTION WITH TRAVERSE AND CLARIFICATION OF GROUPS

Applicant elects the claims of *Invention I*, with traverse for the reasons discussed below. Applicant also wishes to clarify and confirm the line of distinction between the two inventions and ensure that the claims are properly categorized.

Claims 1-2, 8-9, 12-13, 54-55, 58, 83-84, 86-87, and 90-91, currently categorized in *Invention I*, actually contain no limitations concerning that group's "frequency translating of a signal in a receiver circuitry having inphase and quadrature paths." Thus that subset of claims should be reclassified to non-elected *Invention II*. Claims 10-11 and 88-89 call for providing spectrum coverage "within one of an upper high-frequency spectrum of interest and a lower high-frequency spectrum of interest," but do not specifically recite receiver circuitry having inphase and quadrature paths. Thus those claims should be reclassified to *Invention II* as well.

Please note that some of the claims for which reclassification is requested have dependent claims (3-4, 14, 17-18, 59-61, 63, 85) that are properly categorized in *Invention I* because they include various limitations concerning "a second local oscillator signal . . . approximately in quadrature with [a] first local oscillator signal."

A complete list of claims that applicant believes are properly characterized by the Office Action's description of *Invention I* follows: Claims 3-4, 7, 14, 17-23, 25-30, 33-

39, 41, 44, 46, 47, 49-53, 59-61, 63, 65, 69, 70, 73-74, 77-78, 81-82, 85, and 136-155, plus new claims 156-158. Of those claims, only claims 19, 23, 39, 65, 74, and 136 are independent, and the rest are dependent.

If applicant has misinterpreted the line of distinction, the Examiner is respectfully requested to telephone the undersigned to discuss the issue and ensure that applicant and the Office have a common understanding of the claim categorization.

#### TRAVERSAL OF RESTRICTION

Applicant respectfully submits that, correctly applied to the inventions, the rules relating to restriction requirements support reconsideration and withdrawal (or at least modification) of the restriction requirement. *See generally* MPEP 806.05(c) (re: combinations/subcombinations). That some claims to elected *Invention I* are dependent claims that depend on claims in *Invention II* (non-elected) highlights the problem.

As a preliminary matter, applicant agrees that claims including the limitation of frequency-translating a signal with in-phase (I) and quadrature (Q) signal paths (the limitation defining *Invention I*) adds a material limitation to the base subcombination of frequency translating using only a single path (*Invention II*). As discussed in applicant's specification, "complex I, Q signals contain twice the spectral information of a real signal" (*para. 0044*). Advantageously, after frequency translation to positive and negative frequency ranges by mixing with an appropriate local oscillator frequency, "the use of complex I, Q signals allows the positive frequency range to be distinguished from the negative frequency range" (*para. 0045*).

Accordingly, applicant agrees with the Examiner's apparent view that the combination claims (for example, consider claim 3, in the elected group) might be patentable *independent* of the decision on the subcombination claims (for example, claim 1, in the non-elected group). Conversely, the subcombination claims (*e.g.*, claim 1) might be patentable without the limitations added by the combination (*e.g.*, claim 3); in

the terms of MPEP 806.05(c), "the subcombination can be shown to have utility either by itself or in another materially different combination."

However, the above-agreed conclusions are not sufficient to support a restriction because, to restrict, the Office must also show that the "combination as claimed . . . does not require the particulars of the subcombination as claimed for patentability (to show novelty and unobviousness)." MPEP 806.05(c). Here, the restriction requirement lacks this necessary showing, and the dependent claim structure seems to refute such a showing. Again consider claim 3 as the example: Claim 3 clearly incorporates the particulars of claim 1. It thus "require[s] the particulars of the subcombination as claimed for patentability," the subcombination being the elements stated in claim 1 as a whole.

Moving beyond claims 1 and 3, all claims of *Invention I*, which applicant has provisionally elected for examination subject to this traversal, generally include the defining characteristic of non-elected *Invention II* as well as the defining characteristic of *Invention I*.

The restriction requirement may be based on the assumption that the claims of non-elected *Invention II* require a "signal . . . having a *single* path" (as the restriction requirement puts it, emphasis added), with the word "single" meant to refer to "one and only one" - as opposed to "at least one" (or "one or more"). If that is the case, the restriction requirement is premised on a misunderstanding of *Invention II* as claimed. Those claims do not exclude the possibility of the signal having or being broken into two paths. For example, claim 1 refers to a "first local oscillator signal," but dependent claim 3 depends on claim 1 and adds a "second local oscillator signal" in quadrature to the first. Thus claim 1 clearly does not exclude the possibility of a second signal path.

A second reason for traversing is that examination of the claims of non-elected *Invention II* would impose little or no added burden because the examiner must search the claims of elected *Invention I* anyway. To examine claim 3, for example, the Examiner must do a search that covers all elements of claim 1, on which claims 3 depend. The

Office can see that, even though claim 1 is properly classified in non-elected *Invention II*, the Examiner must search its limitations anyway. Examination of claim 1 should require nothing more than reporting the results of the search along with the conclusions as to dependent claim 3. A similar pattern exists with respect to other claims of *Invention II*, specifically independent claims 12, 54, 83, 92, 112, and 124, which are in *Invention II* but from which elected claims depend.

### CONCLUSION

Applicant elects claims of *Invention I* for examination, with traverse on the grounds that the claims of the non-elected invention do not exclude the feature defining the elected group. Indeed, the presence of claims in *Invention I* that depend from claims in non-elected *Invention II* shows that the elected feature is optional. Thus searching the non-elected group would require little or no additional burden.

Please feel free to telephone the undersigned to advance prompt, substantive prosecution of this application.

Respectfully submitted,



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